AMENDMENTS TO THE CLAIMS

1-6. (Canceled)

7. (Withdrawn) A thin film of metal oxide prepared by a method for preparing a thin film of metal oxide containing one or more metal elements on a substrate, which comprises the steps of:

applying a sol-gel solution containing said one or more metal elements to a surface of said substrate;

drying said sol gel solution to prepare a dried gel film on said substrate;

soaking said dried gel film on said substrate in an alkaline aqueous solution containing at least one kind of metal element among said one or more metal elements in a container;

sealing said container; and

performing hydrothermal treatment for said dried gel film on said substrate in the sealed container to prepare said thin film of metal oxide on said substrate.

8. (Withdrawn) The thin film of metal oxide according to claim 7, wherein said thin film of metal oxide has substantially no carbon.

9. (Withdrawn) The thin film of metal oxide according to claim 7, wherein a leakage current in said thin film of metal oxide is 10^{-7} A/cm^2 or less when a voltage of 2V is applied to said thin film of metal oxide.

10. (Withdrawn) The thin film of metal oxide according to claim 7, wherein a relative dielectric constant of said thin film of metal oxide is 20 or higher.

11. (Withdrawn) A capacitor including a thin film of metal oxide containing one or more metal elements as a dielectric, wherein said thin film of metal oxide is prepared by a method for preparing a thin film of metal oxide containing one or more metal elements on a substrate, which comprises the steps of:

applying a sol-gel solution containing said one or more metal elements to a surface of said substrate;

drying said sol-gel solution to prepare a dried gel film on said substrate;

soaking said dried gel film on said substrate in an alkaline aqueous solution containing at least one kind of metal element among said one or more metal elements in a container;

sealing said container; and

performing hydrothermal treatment for said dried gel film on said substrate in the sealed container to prepare said thin film of metal oxide on said substrate.

12. (Withdrawn) A memory comprising a capacitor which includes a thin film of metal oxide containing one or more metal elements as a dielectric, wherein said thin film of metal oxide is prepared by a method for preparing a thin film of metal oxide containing one or more metal elements on a substrate, which comprises the steps of:

applying a sol-gel solution containing said one or more metal elements to a surface of said substrate;

drying said sol-gel solution to prepare a dried gel film on said substrate;

soaking said dried gel film on said substrate in an alkaline aqueous solution containing at least one kind of metal element among said one or more metal elements in a container;

sealing said container; and

performing hydrothermal treatment for said dried gel film on said substrate in the sealed container to prepare said thin film of metal oxide on said substrate.

13-21. (Canceled)

22. (New) A method for preparing a thin film of a metal oxide on a substrate, the metal oxide having perovskite crystal structure and expressed with chemical formula ABO_3 wherein A and B are metallic elements, comprising the steps of:

applying a sol-gel solution to a surface of the substrate, the sol-gel solution containing a metallic element or elements in the metal oxide;

drying the sol-gel solution to prepare a dried gel film on the substrate;

soaking the dried gel film on the substrate in an alkaline aqueous solution in a container, the aqueous solution including every metallic element of A in ABO_3, a metallic element or elements present in the aqueous solution including only the every element of A in ABO_3;

sealing the container; and

performing hydrothermal treatment for the dried gel film on the substrate in the sealed container to provide the thin film of the metal oxide on the substrate.

23. (New) The method according to claim 22, wherein the metallic elements contained in the metal oxide are barium and titanium, and the metallic element present in the alkaline aqueous solution is only barium.

24. (New) The method according to claim 23, wherein the sol-gel solution comprises barium acetate and titanium alkoxide.

25. (New) The method according to claim 22, wherein the metallic elements contained in the metal oxide are barium, strontium and titanium, and the metallic elements present in the alkaline aqueous solution are only barium and strontium.

26. (New) The method according to claim 25, wherein the sol-gel solution comprises barium acetate, strontium acetate, and titanium alkoxide.

27. (New) The method according to claim 22, wherein metallic elements included in the sol-gel solution are the elements A and B in ABO_3.

28. (New) The method according to claim 22, wherein in said step of performing hydrothermal treatment, an internal temperature of said sealed container is set to a temperature of 374°C or lower.

29. (New) The method according to claim 22, wherein in said step of performing hydrothermal treatment, an internal temperature of said sealed container is set to a temperature of no lower than 140°C and no higher than 240°C.

30. (New) The method according to claim 22, further comprising the step of boiling said alkaline aqueous solution before said step of soaking.